

Regional Methods (RM) Program

Region 10 FY03-Funded RM Projects

Development of Quantitative Index of Excessive Sedimentation

Purpose: The purpose of this project is to develop a practical, time-efficient tool that relies on a minimum of quantitative field measurements and delivers a clear picture of excessive sedimentation.

Relevance: While many states have adopted the use of the qualitative Rapid Bioassessment Protocols habitat evaluation, these evaluations often indicate that excessive sedimentation is a possible cause of impairment. The states are not currently using tools to quantify the excessive sedimentation or to link sediment thresholds to biological endpoints or goals, as defined by the bioassessment. The result is a determination of impairment, but only a qualitative suggestion of a cause of impairment.

Description: This project will involve the collection of spatially intensive field data from two basins in the mid-Atlantic region. Data collected will be used to examine the question of whether time lags between basin disturbance and channel response (the index values) are sufficient to lead to spatial

patterns in the index that diminish the association between the sedimentation index and current land use. These studies will also help to generally evaluate if the index formulation optimally scales channel responses for drainage area, slope, large woody debris volume, and channel morphometry. Where the index has been tested in the Pacific northwest, index values show that, for a wide range of lithologies, relatively undisturbed reference stream sites have index values suggesting that sediment transport is in rough equilibrium with sediment supplies.

Funding: This project will be conducted through an existing cooperative agreement.

Anticipated Product: A technical guidance document will be prepared for use by land managers and regulators, as well as peer-reviewed journal articles of the scientific results.

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